

UNDERFILL COMPOUNDS INCLUDING ELECTRICALLY CHARGED FILLER
ELEMENTS, MICROELECTRONIC DEVICES HAVING UNDERFILL
COMPOUNDS INCLUDING ELECTRICALLY CHARGED FILLER ELEMENTS,
AND METHODS OF UNDERFILLING MICROELECTRONIC DEVICES

ABSTRACT

[0044] Underfill compounds including electrically charged filler elements, microelectronic devices having underfill compounds including electrically charged filler elements, and methods of disposing underfill including electrically charged filler elements on microelectronic devices are disclosed herein. In one embodiment, a microelectronic device includes a microelectronic component, a plurality of electrical couplers carried by the microelectronic component, and an underfill layer covering at least a portion of the electrical couplers. The underfill layer comprises a binder and a plurality of electrically charged filler elements in the binder. The underfill layer can include a first zone having a first concentration of electrically charged filler elements and a second zone having a second concentration of electrically charged filler elements different than the first concentration.